October · 1933

Bulletin

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THE NEW YORK STATE SOCIETY OF
CERTIFIED PUBLIC ACCOUNTANTS

The APPLICATION *of* MACHINE METHODS *to* ACCOUNTING RECORDS

OFFICE OF THE SOCIETY
30 BROAD STREET · NEW YORK

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"To cultivate, promote and disseminate knowledge and information concerning accountancy and subjects related thereto; to establish and maintain high standards of integrity, honor and character among certified public accountants; to furnish information regarding accountancy and the practice and methods thereof to its members, and to other persons interested therein, and to the general public; to protect the interests of its members and of the general public with respect to the practice of accountancy; to promote reforms in the law; to provide lectures, and to cause the publication of articles, relating to accountancy and the practice and methods thereof; to correspond and hold relations with other organizations of accountants, both within and without the United States of America; to establish and maintain a library, and reading rooms, meeting rooms and social rooms for the use of its members; to promote social intercourse among its own members and between its own members and the members of other organizations of accountants and other persons interested in accountancy or related subjects; and to do any and all things which shall be lawful and appropriate in furtherance of any of the purposes hereinbefore expressed."

—*From the Certificate of Incorporation.*

PRINTED IN U.S.A.
171

October · 1933

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CERTIFIED PUBLIC ACCOUNTANTS

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THE NEW YORK STATE SOCIETY OF
CERTIFIED PUBLIC ACCOUNTANTS

Machine Accounting for Real Estate Management Organizations

By J. ANDREW CRAFTS, C.P.A.,
of CRAFTS & VOLK

THE conditions existing in the real estate field during the past few years have resulted in a very considerable concentration of management control in the hands of the large organizations of specialists. This is due to the fact that savings banks, insurance companies, other mortgage companies and bond holders' committees have been forced to assume the responsibility for numerous large city properties. Suddenly confronted with this responsibility, and being without specialized experience along this line, they have very properly delegated this responsibility to experienced hands. This increase in the volume of detail handled by the larger management organizations serves to emphasize the long existing necessity for arriving at a standardized economical and efficient system for handling the office details attendant upon this class of management, as well as for standardized forms of monthly reports submitted by the managing agent to the owner.

At the present time there is little uniformity in the organization and office methods among the general run of management organizations. The monthly statements submitted to owners vary to a considerable extent in form and content. Some of the larger organizations have installed bookkeeping machine systems. Many are still using an amplified edition of the same pen and ink methods which they used on the first building managed. Many of the machine systems in use are poorly designed and inefficiently operated. To a considerable extent efficient production is impeded by certain customs and usages of the business which could be altered slightly to facilitate the application of production methods and machine operation. Many of these organizations are further handicapped by their failure to realize the fundamental necessity for functional organization and for the

careful and specific delegation of authority and responsibility under adequate control and supervision.

Machine methods, as applied to office procedure, necessitate the creation of a completely co-ordinated functional organization in which the lines of authority and the responsibility of each unit are clearly defined. The general functions may be enumerated as follows:

1. Administrative
2. Contact with owners
3. Renting
4. Operating
5. Accounting
6. Collection
7. Purchasing

The accounting for this type of organization involves a large mass of detail and is somewhat confusing to the uninitiated because of the fact that the managing organization acts as an agent, dealing, on the one hand, with tenants, employees and vendors and, on the other hand, with property owners. The accounting and office routines may be segregated into the following classes:

1. Recording of information in readily accessable form with regard to lease contracts with tenants.
2. Billing to the tenants the regular monthly charges for rent or maintenance, electricity, telephone, etc.
3. Collecting and recording the amounts due from tenants.
4. Authorizing purchases and commitments for the account of property owners.
5. Checking, recording and charging to property owners disbursements made for their account.
6. Preparing and submitting to property owners complete monthly statements of all transactions involved.

Recording Lease Contracts

Provision should be made for recording the essential information from each executed lease in such a manner as to advise all operating departments of the details necessary for

the fulfillment of their respective functions. The rental department must be notified to remove the space concerned from its available list. The accounting department must be given all information necessary for purposes of monthly billing. The addressograph department must be given the information for making up the necessary plates. The management department must be advised of the necessary preparations and the building superintendent authorized to render the space available. All this information can be obtained in one operation for distribution to the departments concerned by the use of a properly designed form of multi-copied advice. Provision should be made for obtaining an acknowledgement from each department of the receipt of this information. The lease contract itself should be filed by properties under proper fire resisting protection.

The accounting department's record of leases should contain the name of the tenant, the space rented, the period, the address to which bills are to be sent, the rate of rental, and details of any concessions or special terms pertinent to the monthly billing of rents. This information should be placed preferably on a form of card suitable for so-called visible filing. The visible portion of the card should give the most essential information. Such visible filing equipment makes it possible to allocate a specific filing space for each unit of building space, rendering obvious the omission or loss of any record. It provides the fastest possible reference and lends itself to the use of colored signals for the purpose of calling attention to any special considerations.

Any modifications of lease contracts should be made known to the interested departments in the same manner as the original contract.

Billing Tenants and Recording Collections

In many cases the billing of tenants has been effected entirely by the use of addressograph plates containing the amount of the monthly rental in addition to the name and address of the tenant. If the rent is uniformly the only item to be billed, this procedure is efficient. However, in most city properties, it is generally necessary to provide for the

billing of electricity and, in many cases, for telephone and other miscellaneous charges. It is extremely desirable to render one summary bill for the total amount due, attaching, if necessary, any detailed information in regard to meter readings, telephone charges and like information.

A billing of this nature involving only a few items normally settled in full on a monthly basis has been fully demonstrated by various public service companies in the form which provides for entering on one line, from left to right across the face of the bill, the details of the charges under their respective class designations. It also provides for extending the total with further provisions for a cashier's stub to be returned with the payment. When this type of bill is used the name and address of the tenant can be affixed to the bill by an electrically operated addressograph machine. The charges can be entered by the bookkeeping machine with automatic calculation of the necessary cross-footing an extension of total. This type of billing permits the use of a duplicate sheet (proof sheet) on which a carbon copy of each bill is imprinted, as written, in the form of a list of all bills rendered. Properly arranged, with each class of charge in separately designated columns and with the names of tenants and apartment numbers affixed (addressograph listing), this list can be used as a "Boston Ledger" for the tenants' accounts, space being provided for the posting of cash received from tenants, allowances and adjustments against each name. In the machine operation for the posting of such cash allowances and adjustments a further proof sheet may be used, representing a complete detailed daily listing of all cash received and deposited. These various operations can be handled with a positive daily machine control and without any possibility of a peak load at the end of the month because of the necessity for locating errors.

At the time for rendering statements to owners this "Boston Ledger" of tenants' accounts provides the complete information for the statement to owners in regard to collections in substantially the form desired. By providing a duplicate of the proof sheet used in the billing operation it is possible to use the second copy as the tenants' ledger and to

save the first copy for the statement to owners of tenants' accounts, adding at the end of the month, the collections and arrears or, merely the arrears. In this manner there is created at one operation the tenants' bill, the tenants' ledger record and the major portion of the statement to owners of tenants' accounts. Care must be exercised in the choice of carbon paper and in the handling of this operation so as to insure the availability of a neat copy for the owner. This operation further makes it possible to produce extra copies of the tenants' bills in a form suitable for the purpose of collection notices.

The alternative procedure to the above operations would be to type the bills separately, post to the tenants' ledger, consisting of a separate sheet for each tenant, post cash collected on the same separate sheets and, at the end of the month, summarize the information contained on these sheets in the form of a statement to owners of tenants' accounts. This procedure obviously requires considerably more work and further results in a peak load at the end of the month when there is always a general rush even under the most favorable conditions.

Separate Accounts for Tenants Considered

Many managing executives maintain that the historical record in the form of a separate account for each tenant is necessary, particularly at the present time when the proportion of tenants in arrears is unusually large. The first mentioned type of record, however, renders all details readily available on the monthly ledger sheets. If desirable, a copy of the bills may be kept and arranged in sequence of months as an historical record for each tenant.

Properly designed and operated the above outlined procedure will provide a positive daily control on the billing and recording of collections, and will provide adequate information for the collection department and proper statements to owners. Furthermore, it will accomplish this economically with a minimum of peak load.

In this connection, attention is called to the fact that many managing contracts provide for compensation of the manager

on the basis of a percentage of rentals collected as distinguished from collections of charges for electricity and other items. Such an arrangement requires an analysis of receipts which is laborious and unnecessary, if anticipated in the contract.

While the above procedure is set forth as using the typewriter form of bookkeeping machine, attention is called to the fact that the tabulating (punch card) machine may be used. This procedure involves the punching of a card for each tenant for each month for each class of charge, the tabulation of these cards on the tenants' bill and, at the end of the month, on the statement to owners, with proper columnar allocation, as between paid and unpaid amounts. The cost of this type of equipment would be warranted only in the largest organizations. Regardless of the volume of detail to be handled, the combination of operations under the first mentioned type of equipment would seem to result in a lower unit cost of operation.

Handling Purchase Commitments

The handling of all purchases and other commitments for the account of owners should be centralized in one department under the close supervision and control of one responsible individual. The authority for all such commitments should be in the form of multi-copy purchase orders, numbered serially and issued only over authorized signatures. Invoices should be honored only when covered by such purchase orders or by regular service contracts such as used for electricity, gas, telephone, etc. These purchase orders should be issued on the basis of requests originating in the management department. Insofar as possible, they should contain complete specific information in regard to quantity, unit, price, and total amount. The orginal should go to the person addressed and copies should be provided for at least the accounting department, the management department and the building superintendent. Provision should be made for the proper approval on one of the copies for "receipt of value" and the prompt return of such approved copy to the accounting department. The first accounting department copy can be filed,

when received, by properties and alphabetically by name of vendor within each property.

This file will represent at all times a complete record of all unfulfilled commitments for the respective properties. As copies are returned, approved for receipt of value, they can be attached to the first accounting department copy. As invoices are received, both order copies can be taken from the file, checked against the invoices, approved and passed for payment. Inasmuch as the invoice itself is normally returned to the owner of the property, approval should be noted on the accounting department copy of the order, which will serve the agent as a permanent record of the transaction. In this connection, attention is called to the fact that it has been the custom to send out invoices for receipt by the vendors at the time of payment and to render such receipted bills to the owners with the monthly statements. This procedure requires a very considerable mailing and follow-up cost. Some organizations have now adopted the practice of stamping all bills "payment guaranteed by ....." and forwarding the invoice, so stamped, to the owner. This practice would seem to be entirely adequate, particularly if we consider that a signature or rubber stamped receipt on the invoices, as rendered, is much easier to forge than would be the variety of printed invoices involved.

The machine operation for this phase of the work starts when the approved invoice is turned over to the machine operator for credit to the vendor and for charge to the owner. Inasmuch as these invoices and attached orders are at this time arranged by properties, it is desirable to make the first machine operation the entry on the statement of disbursements to owners. As soon as this operation is completed, the invoices can be re-sorted alphabetically by name of vendor and posted on remittance advices for the respective vendors. The machine total for each of these operations is accumulated and should be compared, one with the other, as a check on the accuracy of the posting. It should not be necessary to pay all invoices daily, as charged to the owner, for this would involve the use of an undue number of checks. Daily or periodical transfers in total can be made to a special bank

account for purposes of settling these items when the checks are drawn monthly. In this manner it is possible for the agent to draw one check for each month for each vendor for all properties, thus minimizing the details involved in this connection as well as the present tax on checks. The statement of disbursements to the owner can be in such form as to provide the necessary details in regard to each disbursement, including a code notation as to the class of expense concerned.

Disbursement of Cash

At such times as it may be desirable to pay the respective vendors, the remittance statement, showing the accumulated balance due, may be withdrawn from the file and a check drawn by machine for the total due. In this operation a proof sheet may be used as a duplicate of the check, in the form of a check register listing of the details noted on the check and carrying an accumulated total of all checks drawn. The original copy of the remittance advice should be arranged in such form as to provide the vendor with complete information as to the items covered by the check. The duplicate should be filed as a complete reference record for the items included thereon.

At the end of each month the statement of tenants' accounts to owners should be completed in such form as to provide the owner with all necessary details in regard to the occupancy in the property, the amounts collected from tenants and the amounts in arrears. The amount of commission due the agent should be calculated on the basis of total collections and entered on the statement of disbursements to owners. At this time the accumulated invoices paid for the account of owners during the month can be withdrawn from the file, attached to the owners' statement of disbursements and the statements of tenants' accounts and forwarded to the owner with a check for the unexpended balance or a bill for the over expended balance.

There are numerous subsidiary operations involved which have not been enumerated obove. Particularly in large buildings the personnel records and payroll accounts involve a considerable amount of detail and should be given careful

attention. It is usually desirable to have some individual form of employment record for each employee. This record should be so arranged as to provide a complete history of the preliminaries and details of his employment, including rate of pay, duties, etc. The payroll itself should preferably be arranged on a semi-monthly basis, provision being made for the accumulation of the necessary information in regard to name, class of work, time, rate, and total amount earned. Provision should be made for proper approvals and for the transmission of one copy of the completed payroll as a voucher for the amount disbursed. In large organizations it may be desirable to have individual time cards which may be forwarded to the office for preparation of the payroll itself by machine operation. This operation can be handled by typing a form of payroll voucher with a one line entry from left to right, showing name, class, time, rate, and amount in such a form as to provide the employee with a detailed explanation of the amount received and to render available for the agent an individual receipt from each employee. Furthermore, the use of a proof sheet in connection with the preparation of these payroll vouchers will permit the preparation of the completed payroll as a by-product of the voucher with accumulation of group totals and grand totals in such a manner as to facilitate the audit for compensation and liability insurance purposes.

Handling Meter Readings

In the event meter readings are handled by the agent's organization, it may be desirable to have the machine operation include the preparation of electricity bills, showing the opening and closing meter readings, consumption and amount, in addition to the entry of such total amount on the summary bill to the tenant. This can be handled very easily from the meter readers' reports by the typing of a similar form of one line bill, using a proof sheet as a complete listing of all such bills created.

It is not feasible within the limits of an article of this type to go into complete details in regard to the essentials of the creation of the daily cycle of machine operation and the

various factors of daily controls necessary. Nor is it possible to set forth specific forms which would be applicable to the requirements of all management organizations. It should be borne in mind, however, that the coordination of the complete organization is an extremely necessary prerequisite for successful machine operation on a production basis. It should be considered further that machine operation makes it possible to create a positive daily control on the accuracy of all phases of the work, minimizing the necessity for re-checking details at the end of the month and minimizing peak load periods. It should be further borne in mind that the machine operation is a specialized function and that the whole office routine should be so arranged as to facilitate the transmittal of the necessary posting media to the machine operator in form for production handling so that such machine operator may be in a position to operate without interruptions and delays.

Accounting Equipment for Insurance Companies

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THE insurance business is a fertile field for the use of machinery. Nearly all types of accounting machinery and office equipment are in constant use. The insurance field includes life, fire, marine and casualty companies, and is so broad, that for the purpose of a case study, this paper will be confined to fire companies.

The tremendous volume involved is the cause of the success of accounting machinery in a fire office. A good sized company will have at least one-half million policies in force at all times and the number of yearly entries will be much greater. While the number of policies written each year is less than the number in force at any one time, each policy must be handled many times, thus increasing the volume. For instance, a very large percentage of policies written are either modified by endorsement, cancelled or portions ceded or reinsured with other companies, all of which necessitates separate entries. In addition to the accounting for the premium, every premium and loss must de dissected many times to obtain essential statistics such as reserves for unearned premiums, classification of business as to general class (tornado, hail, sprinkler leakage, automobile, etc.) and as to detailed class (classification of type of property insured, construction of buildings, protected or unprotected by organized or voluntary fire departments) and all further subdivided into States, agents and, in some instances, towns and counties.

Usually, each class of business is written on a separate policy but frequently combination policies including as many as six classes of coverage are written on one form. However, statistics for each class must be kept separately, the same as if business were written on separate policies. This tremendous volume demands the use of accounting machinery. Moreover, all the other primary factors that determine the practicability

of machinery are present in a fire office, including need for clerical costs reduction, variety of distributions made from one set of records, the time element in obtaining accurate and up-to-date reports of operations and the absolute necessity for accuracy, quick detection of errors, internal check and facility of audit.

The source of business is either through authorized agents or licensed brokers. In the case of agency business, the agents are appointed by the company and are authorized to accept the risk, write the policy, make collections of premiums, and are required to send copies of the policies to the company each day for approval. In the case of brokerage business, the line is accepted over the counter from licensed brokers and the policy written up in the "home office" departments of the company. The method of accounting for the premium in the agency department is essentially different from that of the brokerage business written in the home office departments, so that each will be considered separately.

The simplest manner in which to follow the uses of machinery in a modern insurance office is to trace the transactions through the office and to contrast the modern machine methods with the old time pen methods.

Accounting for the Agency Premium

The bulk of the business is obtained through agents appointed throughout the country who number as many as 5,000 in a good sized company. Blank policies, numerically numbered, are sent to the agents who write up the policies, deliver them to the assured, and send a duplicate summary thereof called "daily report" to the home office each day. At the end of the month an "account-current" is rendered, accounting for the premiums written during that month, and, within sixty to ninety days the agent must remit for the balance due. It is essential for the company to follow up all policies sent to the agents so that an agent cannot issue a policy without paying the premium. To this end each agent is given a separate series of policies for his own use.

Formerly, when daily reports were received in the home office, they were sorted by hand, the premium calculations

were verified by hand, and entered by hand into the policy register which was totalled and recapitulated manually at the end of the month.

Today, each agency is given a code number. This code number forms part of the policy number and is printed on each policy and daily report before they are sent to the agent so that a hand sorting and coding is eliminated upon the return of the daily report by the agent. Usually, when a daily report is received, it is first sent to the underwriters for a quick perusal to determine that the risk is in accordance with the line sheet, and for placing of reinsurance. It is then forwarded to the calculating machine operators for verification of the premium calculation. This is the first use of a machine. The report is next sent to the punch card department, where a punch card is made out embracing all the essential information regarding the policies, such as policy number, agency code, general class of risk, detailed class of risk, department, amount of insurance, date, term, and expiration, the premiums and rate of commission payable to the agent. After the cards are punched, they are verified on a "verifier" which is similar to the punching machine excepting that, if a detail is punched incorrectly by the previous operator, the machine locks, thus calling attention to the operator that a mistake was made. If the card was punched wrongly, a new card is made out. Each day the premiums on these punch cards are added automatically on a tabulating machine to obtain a daily total of business written and the daily reports are returned to the underwriter for more careful scrutiny, mapping and like study.

At the end of the month, the cards are mechanically sorted on a sorting machine, by agents and in numerical order of policy numbers. The policy register, one for each agency, is then prepared on a tabulator printing machine. This machine prints each individual policy and the totals for each agent as well as a cumulative total for all agents. The grand total must agree with the predetermined total obtained from the daily tabulation of the cards mentioned above. This work, at the end of the month, consumes three to four days' time of a couple of men and machines. The hand method formerly

required a staff of clerks to enter the daily reports and to tabulate the policy registers at the end of the month. Endorsements covering additional premiums are handled in the same manner as premiums.

Data Concerning Cancellations

Cancellations and return premium endorsements are routed through the office in a similar manner to the premiums. The cancelled policy, when received from the agent, usually has a pencil notation of the date of cancellation, mode of cancellation, i. e., pro rata or short rate and the agent's computation of the return premium. The cancelled policies or endorsements are first sent to the underwriter for his approval and then forwarded to the punch card department for punching and verification of cards and the daily tabulation, the cards of which are used to obtain a daily record of business written. The policies are then sent to the file. The punch cards are filed until the end of the month, at which time they are sorted and printed on return premium registers, in the same manner as premiums.

The agents are required to send in accounts current by the tenth day following the close of the month. These accounts current list individually each policy written or cancelled and show the premium, return premium commission, allowable expenses, and the net balance due the company.

The agents' accounts current must be checked and compared by hand with the policy registers by clerks, called "account checkers," the same as under pen systems to determine that the premiums are reported correctly. It is the duty of these account checkers to see that the agents account for each policy sent to them. This is a simple matter as the account checker has a list of policies sent to each agent and he strikes off his list the policies as they are reported in the agent's account current. Frequently, there are differences between the accounts current and the company record books constituting items in transit or, at times, premiums deliberately withheld by the agent. These differences between the agent's account for a given month and the policy registers

for that same month are listed on a reconciliation sheet which is attached to the account current for subsequent follow up to determine that the differences are cleared in the following month, or a revised account obtained from the agent. Another system provides for a cumulative reconciliation sheet in that all uncleared discrepancies in previous months' accounts are carried forward to the current reconciliation so that all differences to date are entered in the last months sheet. The system of reconciliation used depends on the type of subsidiary accounts receivable ledger kept, which will be explained hereinafter in more detail.

After this work is completed, an agency journal is prepared. This book provides a line for each agent's name and columns for an abstract of the agents' accounts, (including premiums, return premiums, net premiums, net commissions, expenses, and net balance) with further columns for the totals of each agent's premiums and return premiums entered in the policy registers. It also contains a "difference" column for the difference between the total of the net premiums shown on the policy registers and the net premiums reported by each agent. With respect to the difference column, two systems are in common use. The method employed depends upon the type of subsidiary accounts receivable ledger kept. The first system provides only one column for the difference between the current months agents' accounts and the current months' premium registers, whereas the second system is followed when cumulative reconciliations are made out. In this case, the agency journal has two difference columns, one for the cumulative difference at the end of the previous month and the other for the cumulative difference at the end of the current month. Two columns are needed in the latter case because the agents' accounts reconciliations are cumulative, and it is necessary to add the previous cumulative outstanding differences to the premiums reported in the current agents' accounts, and to subtract therefrom the present month's cumulative differences, in order to reconcile with the premiums entered in the current months' premium registers.

Agency Journal Prepared From Punch Cards

Formerly, the agency journal was prepared by hand. In fact, in some offices, this is still done by hand but the modern method is to have punch cards prepared from the account current after it has been audited and to prepare the agency journal from these cards. The advantage of the machine method is that the punch cards can be further used as a "tickler" for following up collections and even, as will be explained later, for preparing the cash receipts book as checks are received. Companies that prepare the agency journal from punch cards find that these cards are of invaluable assistance in following up collections. The cards are filed under chronological tabs and at any time a credit man may see at a glance which accounts are past due. The cards are also very valuable in obtaining an "aged" trial balance of outstanding balances, as all that is needed is to run the outstanding cards through the printing tabulator and an aged trial balance is obtained in less than an hour's time.

Frequently these tickler cards are used for preparing the cash receipts book. The principal difficulty in this system is that although the agent is required to pay his balance in the exact amount shown on his account current, frequently, part payments are made or deductions are taken for items of one nature or another, so that the check received from the agent does not coincide with the balance shown on his account. Where the check for the full amount is received, it is necessary only to pull the card in the outstanding file and to have the total of all the cards for the day, representing that day's collections, tabulated on a cash receipts sheet through the use of the tabulator printing machine. Where the check differs with the balance shown on the agent's account, it is necessary to do one of two things. Two new cards may be made out, one for the amount of the check received to be used in the preparation of the cash book, and the other for the amount of the balance still due, which is filed in the outstanding file in place of the original card; or, the original card is used for preparation of the cash receipts book and a new debit card made out for the amount of the unpaid balance. This debit card, of course, is listed in a special debit column in

the cash receipts book and is posted to the subsidiary outstanding agents' balances ledger at the time the cash book is posted. A duplicate of this debit card is then placed back into the collection tickler file. Heretofore, this method of recording cash receipts was not very practical because the machines did not provide for alphabetical printing but the latest machines are such that the name of the agent can be punched into the card and printed on the agency journal and cash books.

The cash receipts book is of simple design, providing columns for agent's name and code number, amount of balance collected, debit column for short payments, exchange column and columns for banks. Where the machine method is not used, the cash book must be prepared and balanced by hand.

Subsidiary accounts receivable ledgers, termed "agents' balances ledgers" are sometimes kept. The form of this ledger sheet differs from that found in mercantile establishments, although in theory it is the same. The type of ledger sheet used depends upon the form of agents "reconciliation" sheet employed. As explained in previous paragraphs, this reconciliation either is for a single month or is cumulative. Where the single form of reconciliation is used, the ledger sheet provides two debit columns, one for postings of monthly "differences" and the other for the "net balance" shown on the agent's account. Of course, a credit column is provided for cash receipts. The addition of this difference column in the ledger represents the net discrepancies to date between the books and the agent's account. Details of this total are usually kept in a separate book. Where the cumulative "reconciliation" is employed, it is not necessary to have a difference column in the ledger (except as a memo, if desired) as the difference column in the agency journal contains this same information. Also, it is not necessary under this system to maintain a separate book for details of discrepancies with agents, as is needed under the first system described, as this information is contained in the cumulative reconciliation sheet. When the ledger sheet contains only simple debit and credit columns, the adding machine type of bookkeeping machine is practicable. At times, the ledger sheet has memo

columns for details of the agents' accounts, as well as for net balance. In this case, the typewriter style of bookkeeping machine may be used.

Many companies dispense with the agents' balances ledger entirely by coupling the Boston ledger idea with the agency journal. This plan works satisfactorily enough in smaller offices, but the writer prefers the cumulative reconciliation system described above.

Accounting for the Brokerage Premium

As stated before, the source of business written in the home office department is through licensed brokers who submit an application for insurance directly to the company. Blank policies are usually collated with the daily reports so that the two may be made out simultaneously on an ordinary typewriter. Of course, before the policies are made up, the premium and commissions are computed and verified on calculating machines. The daily report forms the company's copy of the policy, from which the home office policy register is prepared. Formerly these registers were made up by hand and posted by hand to the broker's ledger. This required a number of clerks, but modern methods provide for the use of a typewriter keyboard type of bookkeeping machine, whereby the policy register, the brokers' ledger sheet and bill to the broker are prepared in the one operation. The brokers, when remitting, pay each premium separately. This is in contrast to the agency system where an account is rendered for each months' writings and the agent remits only one check for the monthly balance due. Because of this, each policy must be entered separately in the brokers' balances ledger. The machine method greatly reduces in the aggregate the time required to write up the policy registers and to post to the brokers' ledgers.

Usually the brokers' ledgers call for name of the assured, location of risk, premium, rate of commission, amount of commission and net premium, with a column for cash collections, and a memorandum column in which the date each premium is paid can be entered against each individual policy. This acts as an offset column would in an ordinary

mercantile ledger. During the month, the home office policy registers are sent to the Hollerith or Powers punch card departments for punching of premium cards. When these cards are punched in duplicate, the duplicate acts as a tickler for following up collections. As was the case in the agency department, this tickler has an added advantage of quickly drawing off an aged trial balance of uncollected brokers' balances and can also be used in the preparation of the cash receipts book, in the same manner as outlined on the agency system. It is usually the custom of brokers, when sending in a check, to attach a remittance statement thereto showing the detail of the items for which payment is made. The employee in charge of collections under the old system was required to check this remittance statement to the ledger, which had the disadvantage of permitting the collector to have access to the ledgers, but under machine methods the collector needs only refer to his tickler file to prove the accuracy of the check. Return premiums are similarly handled.

Reinsurance is of two kinds. All fire companies have arrangements termed "treaties" with other companies whereby the assuming companies obligate themselves to accept, under certain terms and conditions, whatever portions of any risks, within certain limits, that the ceding company desires to reinsure. At times these treaty facilities are not sufficient to provide all the reinsurance required, in which case individual applications are made to various companies for reinsurance. The first class of reinsurance is called "Treaty Reinsurance" and the second class is called "Facultative". When reinsurance is desired, the underwriter makes out a memorandum to the reinsurance department which prepares binders and sends them to the companies who are on the treaty, or obtains a binder from an outside company when facultative reinsurance is necessary. These binders are kept alive until such time as the policy or daily report is written up and routed through the various accounting departments. Inasmuch as the daily reports have notations that the risk is reinsured, the accounting department sends all such daily reports to the reinsurance departments as soon as their work is completed. The reinsurance departments, in the case of

treaty reinsurance, prepare what is called a bordereau, which is merely a register containing all essential information regarding the risk, such as name of assured, location, class of risk, amount, rate, and premium. Inasmuch as the amount reinsured is not for the full amount of the policy, it is necessary to compute the reinsurance portion of each premium. Usually a Moon-Hopkins type of bookkeeping machine is used so that the bordereau can be prepared and all calculations made in one operation. The totals of the daily sheets are tabulated in order to obtain a daily statement of business written and are finally recapitulated at the end of the month, at which time an account current is prepared and forwarded to the treaty reinsurance companies. These accounts current must agree with the daily reports sent each day to the reinsurers and form the basis of the journal entry in the general ledger.

In the case of facultative reinsurance, individual ledger sheets must also be made out for each company to whom business was ceded. Where the Moon-Hopkins machine is used, the ledger sheet and bordereau can be prepared at the same time, thus eliminating the labor formerly needed in writing out ledgers by hand. The ceding company must make remittance to the reinsurers each month. In the case of treaty reinsurance, the amount is already shown on the account current. In the case of facultative, remittance memorandum slip must be prepared. Where the machine method is used, this remittance memorandum can be prepared at the same time the ledger is posted, and thus another hand operation is eliminated.

Return premiums covering reinsurance are routed through the office in the same manner as the premium entries. The punch cards are usually prepared from the reinsurance bordereaux.

Manner of Handling Losses

When losses occur, notices thereof are sent to the home office by either the agent, broker or assured, at which time the loss department prepares what is termed the "loss pocket", in which will be contained all of the papers regarding that

loss and on the outside of which is a summary of the essential facts regarding amount of loss, agency code, classification code, reinsurer's portion of loss and like data. Formerly, loss registers, one for each series of policies, were prepared by hand. This involved the services of a large number of clerks. Today, the loss pockets, after they are made out, are forwarded to the punch card department, where a card is punched containing all the essential information including the estimated loss reported by the assured. The card also provides columns for the date of payment and amount of loss paid, which is subsequently filled in when the loss is paid, as hereinafter explained. These cards are tabulated daily in order to obtain a daily loss record, and at the end of the month they form the basis of preparing the "reported" loss registers on the tabulator printing type of machine. The punch cards are sorted and filed by claim numbers.

Although some companies maintain separate loss disbursements cash books, through the use of the wide check stub, the check register itself may be made to serve the purpose of the loss disbursements book, by inserting all needed data on the stub. When the losses are paid, the cards are drawn from the outstanding loss file in the order in which they appear in the check book and are forwarded, together with the check book, to the Hollerith or Powers department for punching in the amount of loss and date of payment. These cards are then used for preparing the paid loss register. It is usual to post the date and amount of the paid loss against the reported loss register. This is still done by hand, although some companies have eliminated this procedure entirely, as the loss pockets are filed numerically, so that any information regarding the loss can be readily obtained from the loss pocket.

The cards remaining in the outstanding loss file are used to prepare a run-off of unsettled losses. Fire companies do not have an account in their general ledger for unsettled losses but this does not preclude the possibility of maintaining an outstanding loss control to prove the accuracy of this run-off. This is done by charging to the memorandum control the estimated losses as reported by the assureds and

crediting thereto the amount of the original estimate when the losses are paid. Of course, frequent changes are needed during the course of adjustments of losses for markups and markdowns. This is handled by having new cards punched for the revised estimates, which are charged to the control, and the withdrawing of the old cards, which are credited to the control. Formerly, in order to get a list of the unpaid losses, it was necessary to tabulate them by hand by going through the loss registers for open items. This took considerable time at annual statement periods, whereas at present it is merely necessary to tabulate on a tabulator printing machine the cards in the unsettled loss file.

When a risk is reinsured, notice of loss must be reported to the reinsurance company. Likewise, the reinsurance company must be charged with their proportions when the loss is paid. The procedure for accounting for the reinsurance portion of the loss is similar to the gross loss.

Handling Statistical Records

Up to this point we have merely considered the routing of the premium and loss through the books of original entry and the ledgers. This constitutes only a small part of the accounting work necessary to compile a multitude of statistical records. In the old days, these records were all kept by hand and were far from complete in that a great deal of essential data was not compiled because of the work involved. Today nearly all statistics are prepared from the punch cards, including:

1. Reserve for Unearned Premiums.
2. National Board of Fire Underwriter's classifications of premiums written and losses paid.
3. Record of premiums written and losses paid segregated by States for reporting to the various States on Annual Statements.
4. Record of premiums written and losses paid segregated as to Towns and Counties for those sections of the country requiring this information.
5. Record of premiums written and losses paid segregated according to agents or brokers from whom the business

originated and further subdivided as to detailed classification of risk.

All of the above records can be obtained from the one set of cards. This is done by sorting and tabulating the cards into the classifications desired, and punching the results thereof on summary cards. These summary cards at times serve as the basis of subsequent re-analyses into other classifications, thus eliminating the necessity of handling a multitude of cards, as many as half a million at times. Formerly the summary cards had to be prepared in a separate operation, but today through the use of the summary card punch machine, these cards are automatically punched as the totals are obtained on the tabulating machine. With the exception of the Reserve for unearned premium, nearly all the statistics demanded by the various states and underwriters' boards are called for on an annual basis. The companies cannot let the preparation of this data lag until the end of the year, as the volume involved would interfere with the daily routine of that period and also it would be an unsurmountable job to complete the work in time. It is therefore necessary to prepare these statistics during the year by punching summary cards for each months' or each quarter-year results. At the end of the year the periodic summary cards are combined and rerun for annual totals. In this way the work is spread throughout the year, and the volume of work reduced.

As an example of the use of tabulating equipment in preparing statistics, let us examine the reserve for unearned premiums. Every fire insurance company is required to set aside out of surplus a reserve equal to the unexpired portion of all premiums in force. This reserve is computed either upon the yearly basis, as called for in the conventional form of annual statement, or upon the monthly pro rata basis. The yearly method is the one more commonly used. This method is predicated upon the theory that the average date of attachment of all risks written within a given year is June 30th, so that at the end of any given calendar year, one year term policies are 50 per cent unexpired at the end of that year which is earned in the next year; that three years

lines are 66⅔ per cent unexpired at the end of the first calendar year, 50 per cent unexpired at the end of the second year, 33⅓ per cent unexpired at the end of the third year and the balance earned in the fourth year; that five year policies are 90 per cent unearned at the end of the first calendar year, 70 per cent at the end of the second year, and so on.

Segregating Original Premiums in Force

To facilitate the computation of this reserve, the companies maintain a record of the amount of original premiums in force at all times, segregated into groups according to terms of the policies and expiration dates. An outline in summary of this record at December 31, 1933, before the figures are filled in, would appear as follows:

Term	*Expiring In*	*Original Premium In Force*	*Unearned Proportion*	*Unearned Amount*
1 Year	1934		50 %	
2 Years	1934		75 %	
" "	1935		25 %	
3 Years	1934		66⅔%	
" "	1935		50 %	
" "	1936		33⅓%	
4 Years	1934		87½%	
" "	1935		62½%	
" "	1936		37½%	
" "	1937		12½%	
5 Years	1934		90 %	
" "	1935		70 %	
" "	1936		50 %	
" "	1937		30 %	
" "	1938		10 %	

At the termination of 1934, the lines expiring in that year are dropped from the record, and new policies written in that year are added thereto. The "in force" figures are reduced currently for cancellations in the amount of the original premiums on those policies cancelled and not in the amount of the actual return premiums thereon. A similar record is kept

for the reinsured portions of risks in order to compute a net reserve for the company.

The mechanics of arriving at the "in force" figures are first to sort the premium punch cards, covering a year's writings, first by year of expiration and then by term of policies after which a total for each term and expiration is obtained on the tabulating machine. Summary cards for these totals are automatically punched by the summary card punch machine attached to the tabulator equipment. The return premium punch cards are similarly sorted, tabulated and summary card punched. These summary cards are combined with those in force at the end of the previous period, and are sorted and tabulated to obtain consolidated figures. The latest tabulating equipment automatically subtracts the return premium figures from the premium totals and prints net balances for each term and expiration. Through the use of summary cards, therefore, the volume of cards that must be sorted and tabulated, to arrive at combined "in force" figures, is tremendously reduced. A proof of the final in force tabulations is obtained as follows:

In Force at beginning of period.....		x
Add—Premiums written during the period.....		x
Total		x
Deduct—Original premiums on policies cancelled	x	
Original premiums on policies expired.	x	x
Balance—In Force at end of period.....		x

The "in force" figures are next reduced to the unearned percentages, shown in the above table, to arrive at the reserve for unearned premiums. The procedure in obtaining the reinsured portions of risks in force is the same as that for the gross reserve. This must be procured to compute the net reserve of a company.

These machines are equally indispensable in compiling the other statistics mentioned heretofore. The routine of all

statistical work obtained on this equipment is along the same lines as that outlined under the reserve for unearned premiums.

Tabulating machines were invented for the census bureau, but it may be said that they were developed and perfected because of the insurance business. However, accounting machinery in an insurance office is not limited to this type of equipment. This equipment may be employed more widely than any other one type, but nevertheless, nearly all kinds of office appliances are in constant use, which makes the insurance field an interesting one for the study of the application of accounting machinery.

Photographic Accounting Machinery

By JUSTIN JACOBS, C. P.A.
OF ELIOT & JACOBS

THE exploitation of photographic accounting machinery has barely begun. It will be most judiciously achieved if it is confined to such work as is fundamentally adapted to the highly specialized field of the photographic phase of the profession of accountancy. Naturally the certified public accountant, because of the impartial nature of his profession and the broad scope of his contacts and training, is eminently fitted to judge the adaptability of photographic equipment to accounting functions and to devise new phases of the practical adaptation of its various potentialities.

It is the purpose of the Committee on Accounting Machinery of the New York State Society of Certified Public Accountants to consider both the advantages and disadvantages of the various types of accounting machinery so that the members of our Society may be aided in selecting the type of machine best suited to particular functions and to avoid such installations as will militate against efficiency and economy. This paper will stress the adaptability of photographic accounting machinery to such phases of our own practices as deal with special investigations and similar work.

There are two types of photographic accounting machinery. One type produces a negative on sensitized paper and this picture can readily be handled with the same facility as an ordinary work sheet. The other type produces negatives on rolls of film and these negatives may be viewed on the screen of a compact projection machine.

The first type is commonly known as the Photostat. It may be used to photograph loose leaf or bound records of practically any dimensions and can readily be set to make a picture smaller or larger than the original record. This machine, with its washer, electric dryer, etc., constitutes station-

ary equipment and occupies a small room. This type is fairly well known to accountants.

The Recordak Type

The second and newest type of photographic accounting machinery consists of a photographing machine and a projector, either of which may be used as stationary or portable equipment. The photographing machine occupies about the same floor space as a small typewriter desk and records pictures on a sixteen millimeter film roll. The film is developed at a convenient branch of the manufacturer and is then ready to be shown on the projector. The projector is slightly larger than an adding machine (without stand) and may be used on any desk.

The Recordak can accommodate either flat unbound sheets or bound documents containing up to about six flat sheets. These sheets may have one dimension of infinite length but the other dimension must not exceed 10½ inches.

The photographing machine is a box-like affair, in the back of which is a camera containing two lenses. This camera may be set to use only one film or to photograph the same picture on both films simultaneously. A meter indicates the unexposed length of the shortest film and a bell rings when either film is almost used up as a warning to the operator. A red light shows when the machine is turned on. As sheets to be photographed are dropped into the front of the machine, a second red light flickers while they are being exposed. A constant artificial light is used inside the machine and the focus never varies. The same motor that actuates the device carrying the original record through the machine, turns the film at the same time, so that an inexperienced operator, by merely feeding records to the machine, gets the same uniform results as the most experienced photographer.

Some idea of the capacity and speed of this machine may be gained from the fact that a one hundred foot roll of film will photograph eight thousand checks at the rate of over one hundred checks per minute. The Recordak uses the same

type of safety film as is made for amateur moving picture cameras.

Serial Numbers Provide Index

Each machine has its own serial number which is automatically photographed between the lefthand sprocket holes of each section of the film. To the left of this number on the film consecutive numbers may be photographed, ranging from 000 to 999. These serial numbers provide an excellent means of indexing the material incorporated in each film. The numbers to be photographed are controlled by using a push rod on the right side of the photographing machine which moves one number up for each push. The machine is equipped with a visible automatic counter which records the number of exposures made and, if desired, the manually operated number index may be synchronized with the automatic meter. There is no provision for photographing the number appearing on the automatic meter. The number to be photographed on the manually operated meter is visible at all times through a mirror on the right side of the photographing machine.

On the right hand side of the film a provision is made to photograph on each section between the sprocket holes, the three following types of information: 1. Date (1 to 31). 2. Bank number. 3. Federal Reserve District.

The provision for photographing the above described information on the margins of the film was especially designed for banking purposes, but it can be adapted to fit other needs.

A one hundred foot spool of film may be compactly filed as it occupies a space slightly larger than a pocket cigarette case. The cardboard case in which the film is packed provides ample space for description and dates. The entire film roll may be developed as one unit or, if the volume of work is not sufficiently heavy, parts of the roll may be developed from time to time.

After the film has been devoloped it is ready for the projector. This device shows the image life size and can be operated either by a hand lever that jumps the film one section at a time, or by a small hand crank which turns the film as slowly or as rapidly as desired. The screen on which

the picture appears is built into this compact little machine which may be readily carried from desk to desk. It is not necessary to darken the office in order to get a brilliant detailed view of pictures photographed.

Applications to Special Investigations by C. P. A.'s

One very important feature of special investigation work is the audit of correspondence files, legal documents and miscellaneous papers. If the bulk of this data is sufficiently large, the accountant may readily rent Rocordak equipment for a special assignment. With the photographing machine in front of him, it is a simple matter to actually photograph an unlimited volume of data. This procedure is much more rapid and convenient than making copies in any other manner. It has the additional advantage of saving time and labor and, most important of all, it makes a photographic copy of every detail on the original record. The courts have held that these photographs constitute admissible evidence. The point stressed here is that if an investigator can devote his full attention to scrutinizing documents with the knowledge that a machine at his side will automatically photograph them so that he can immediately return them to their original position in the files under inspection, he can function much more efficiently and his work may be much more thorough than if he were obliged to make copies in any other way. Attention is again directed to the fact that the Recordak will not photograph very thick documents and that one dimension of these documents must be limited in size to 10½ inches. Bound, or extra large documents, either must be removed from the files and brought to a photostat machine to be photographed, or else copies must be made in the old fashioned way.

This type of machinery has been developed especially in the field of banking. Our members may obtain booklets and other comprehensive data regarding these installations from the manufacturers of the respective machines. A study of this information is commended to the members of this Society so that they may be stimulated to devise new systems that will enable their clients to capitalize on the possibilities suggested by photographic accounting machinery.

Some Observations on the Use of Accounting Machinery*

By LEWI GLUICK, C. P.A.

IN this paper the writer confines himself to general and commercial examples. These are derived from actual cases in either his own experience or that of his professional colleagues.

Since the Navy has a parallel, if not an exact duplicate, for almost every activity in civil business, it should not be difficult for a supply officer to readily visualize the application to his own work. Many of the Navy's problems are not unique and large corporations have many similar ones.

In ancient times men needed some mechanical aids to counting; the most available were their own fingers (whence our decimal system) and toes (whence the French double-decimal system—quatre-vingt equals eighty). The further history of mechanical aids is a fascinating study in itself. It reaches its modern climax in the Chicago Exposition. All reports indicate the accounting machinery exhibits are highly popular. Here in New York we are singularly fortunate. In the Museum of Science and Industry, 220 East 42nd Street, we have a permanent exhibit of historic calculating machines, ranging from the ancient abian abaccus to a new and modern machine. Also there is held annually at the Grand Central Palace a so-called "National" Business Show at which many manufacturers of bookkeeping and office devices show their wares.

Furthermore, the New York State Society of Certified Public Accountants, at its annual October Convention, has a comprehensive exhibit, varied from year to year, chiefly from makers who do not exhibit at the Grand Central Palace. This year the meeting takes place at the Waldorf-Astoria on October 30th. Of course all manufacturers have showrooms in New York where they are willing to demonstrate their machines to you. But these are scattered all over town, so that

comparisons are difficult to make with the promptness required for accuracy.

Tentative Classification of Machines

The Society's Committee has adopted a tentative and unofficial classification of machines which includes any mechanical aid to recording and accounting for business transactions.

I. **Bookkeeping Machines**
   - A. Typewriter Key Board.
     1. Roller Type
     2. Flat bed type
   - B. Register Key Board
     (Using only numbers and symbols)

II. **Calculating Machines**
   - A. Listing
     1. 81 Key Type
     2. 10 Key Type
   - B. Non-Listing
     1. Key Drive Type (touch system)
     2. Sliding carriage type

III. **Statistical Machines**
   - A. Punch Card Type
   - B. Miscellaneous
     1. All the foregoing I and II can be used for statistics

IV. **Office Machinery**
   - A. Typewriters and Accessories
   - B. Addressing Machines and Accessories
   - C. Check Writers
   - D. Filing and Sorting Devices
   - E. Safes, Clocks, etc.

V. **Miscellaneous**
   - A. Pencils, Pens, Paper and Ink
   - B. Slide Rules
   - C. Cutting Devices
   - D. Erasers and Copying Devices.
   - E. Anything else which may be used by an accountant to help him in his work

You will notice that in the foregoing classification nothing is said about the most important thing which any man has to help him with his office work, or any other kind of work, that is, his mentality. It must never be forgotten that "an adding machine has not brains enough to make a mistake". And no matter how trite, it is none the less true that although "figures cannot lie, liars can figure".

Machine Accounting Increasing

The use of accounting machinery is gradually increasing. Intelligent application of mechanical devices has not been rapid. It is useless to condemn a salesman for using pressure to sell his machines. It is, however, up to the buyers of the machines to see that they get the right one for their purpose and after they get it, to see that it is competently operated. Too often in the past, executives have succumbed to the glib talks of a salesman, and then been sorry for it. Increasingly business men are turning to their certified public accountants for advise on many matters, including what machines to buy for the office. And even the most conservative old line accountants are realizing that there is something to this mechanical bookkeeping. In general, however, no better source of advice can be found than that of the man who audits the books. He knows the intimate needs of the business; and the personal equation without the solution of which no system can succeed. His only stake in the installation of a machine is a satisfied client and an easier audit. He can act as a buffer between the over-enthusiastic salesman and the purchase-by-price executive.

The best machine manufacturers realize this, and one last year took a cue from the tooth paste people and advertised: "Ask your accountant how our machines can help you." Such co-operation is mutually profitable and deserves encouragement.

From this point on the writer adopts the case method. The citations are typical, not unique. They are culled from hundreds in the Committee's files.

Cites Uses of Accounting Machinery

A client required a very detailed audit, but was irked by the presence of five juniors as well as a senior and semi-senior around his premises for so many days. The certified public accountant introduced key drive computing machines for checking additions and extensions, and reduced the junior time 20 per cent on the first audit and 25 per cent thereafter. The fee was not reduced.

A client was thoroughly sold on one type of key drive machine, electrically operated, as against hand model competitor at nearly same price. The certified public accountant, just in time, pointed out that client's premises were old-fashioned, with electric outlets few and far between. The machines were intended to be carried from desk to desk as needed. An electrician's estimate of the cost of wiring so that machines could be used at all desks decided the issue in favor of hand model.

It need hardly be pointed out to Navy trained men, to whom "bright work" is a religion, that all machines should always be scrupulously clean, and be serviced by the maker's mechanics at least twice a year. Mechanical errors are very nearly one hundred percent preventable. A break in a major city can result only in temporary inconvenience, but in a remote place may be nearly catastrophic. To men who have had adding machines or typewriters go wrong while on a China Station or at sea, during the first twenty days of July, this is self-evident. The writer saw one case where a large corporation installed a duplicate set of tabulating machines, just for stand-by use, so vital did it consider the 9:00 A. M. daily figures. This however is an exception.

Human errors are vastly more common, and, while preventable, are more difficult to prevent. Most errors arise from an incomplete knowledge of the machine and its uses. A half-trained, or self-taught operator can do more damage in a week than an auditor can repair in a fortnight. Low-priced operators are in general a most expensive luxury. In one case a man, desiring to save expenses, and keep the money in the family, employed his daughter as typist and assistant to the

bookkeeper. The repair bills for the machinery and the unnecessary auditing for errors was a complete offset to any imagined saving.

Good Machines Detect Errors

Every good machine has on it devices intended to quickly detect an error, though ignorant salesmen say they prevent them. They prevent them only to the extent that the operator uses care, knowing that if she makes a mistake it will be soon found out. The listing machine star is familiar to all.

The vital thing is to catch an error immediately. You all know the old bank rule, that no one may leave till all have proved. The same rule is used in many offices where modern bookkeeping machinery makes possible the proving of each day's work that day. The difficulty of finding an error increases in relation to the time elapsed.

Engineers have proved somewhat the same thing about automobile crashes. The damage, at twenty miles per hour is four times as great as at ten miles an hour. If a good ledger clerk using pen and ink makes one error, he has only three to four hundred postings to check to find it in a day's work. A correspondingly good machine operator will have up to twelve hundred items to check back. Hence the urgency of prompt detection and correction.

Often a machine is not used enough. Either the salesman forgot to explain its multiple uses, or the operators did not understand him. In a single concern the following mistakes were found and corrected:

(a) Two bookkeeping machines were being used on customers accounts. The second one was in use only one quarter of the time. Creditors accounts were still being kept by pen and ink, always behind and never in control. The clients' staff insisted they did not know machines could be used for accounts payable.

(b) A modern analytical cash register was being used for cash sales. The purchase analysis was being made by pen and ink, with a tape listing machine, about two hours daily work. The analysis was transferred to the register dur-

ing the first thirty minutes of the day when customers were scarce. The purchase clerk had no more daily overtime as a result.

Mistakes in Original Papers

Another fertile source of error is often blamed on the machines, but in reality the machine detects it. This is the incorrect preparation of original papers. The tabulating machine operator gives the corporation comptroller a sheet showing analysis of monthly expense. He gasps as he sees "professional services" $1,200.00. He knows it should be about one tenth that. He examines all items to see if any are proportionately out of line; sees none and concludes that the difference must be in factory wages which is coded 11 or office salaries coded 12. An investigation of all payroll vouchers is then ordered. It takes some time. Surely enough, one is found coded 14, which means professional service, instead of 11. The key punch operator is supposed to punch exactly what is seen.

Struck by this incident, where the difference showed up like the proverbial sore thumb, this comptroller ordered a recheck of all vouchers for two months with the result that a new voucher-coding clerk was hired.

It is easier to prevent errors than correct them. The correction of bona-fide errors made on or by machines is not as easy as those made by hand. Nothing has ever been devised as flexible as pen and ink in the hand of an intelligent man.

The modern breech-loading rifle is far superior to the carronades found on the Constitution, in range, accuracy and speed. But it requires ammunition of very precise size fitting it and nothing else; and a wealth of complicated machinery to bring that ammunition from the magazine through the handling room and into the breech. Above all it needs skilled gun crews.

The old muzzle loading cannons needed no machinery save a couple of blocks and tackle, and a ramrod swab. They were intended for well-made round shot, but could fire chains and scrap iron of any sort available. In other words there was a simplicity and flexibility akin to pen and ink records,

which is sacrificed for the speed and accuracy of the modern business machine.

A tantalizing error to discover and correct occurs when an operator hits a wrong key and discovers it promptly. She corrects the original and does not correct the carbon; or corrects one carbon and not another. The copies are distributed in the regular way and the clerk getting uncorrected copy is out. What a time finding the error!

Accountant's Tools Listed

For the rapid computation of ratios nothing equals the slide rule. Ratios are being used increasingly in all business computations and budgeting. Calculating machines of the sliding carriage type are used where ratio computation is in large volume, as in the credit department of banks. But for quick, inexpensive, ever-ready action, correct to three significant figures (beyond which few minds can grasp) a slide rule is supreme.

Poorly prepared copy is the most fertile source of error in financial reports. The operator strikes the right keys and gets the wrong results, because the figures which her eyes have followed are poorly written. A five looks like an eight, so she strikes the eight. Three dollars and sixteen cents is out of line, and she strikes thirty-one dollars and sixty cents. This is a different kind of error from hitting the wrong key or transposing from correct copy.

The only correction for this is to read back the tape, if any, with the utmost caution. In case of a non-listing machine, columns shoud be re-added up, and not down as is usually done. The angle at which the eye hits the figures, many times reveals the poorly written digits.

Care in the selection and use of pencil and paper to fit the particular case is well repaid. One accountant habitually carries in his audit bag pencils of three degrees of hardness in the ordinary graphite, and in four colors of thin crayon; also three fountain pens, each filled with a different color of ink, and paper in several sizes and qualities.

This is not an individual choice. He was trained to it by his earlier employers, and so were others. An old adage says that "Only a poor workman blames his poor work on his poor tools". But a more potent corollary is "Only a poor workman has poor tools".

This ends the cases. Accounting machinery is no longer a curiosity but an everyday affair, like an electric toaster. Every office needs some and it is up to the responsible executive to see that it has enough of the right kind.

The public is machinery conscious but not so much in the office and home as in the factory. Many periodicals carry articles on office machinery. A New York trust company has devoted one of its monthly bulletins to it. The Society's technical committee is active the year round in its professional society. Accounting machinery is an important factor in modern business.

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* *An address delivered before Reserve Officers of the Supply Corps, Third Naval District, on August 30, 1933.*

Announcing

MONROE MODEL LA-6

Full automatic multiplication as well as full automatic division are now available in a Monroe Adding-Calculator of the convenient LA type — small, quiet, portable, and with all other distinctive Monroe features. This new machine is on display in the Monroe exhibit at the convention of the New York State Society of Certified Public Accountants, Waldorf-Astoria, New York City, October 30.

» » »

A folder describing and illustrating the Monroe LA-6 will be mailed upon request.

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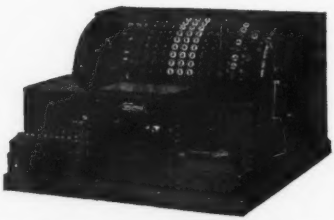

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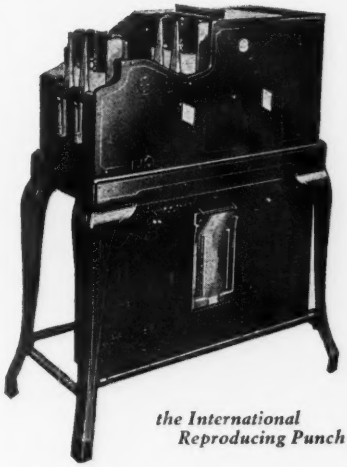

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